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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,154	11/25/2003	Takuya Makino	245786US6	9634
22850	7590	12/13/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			DUONG, THO V	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/720,154

Applicant(s)

MAKINO ET AL.

Examiner

Tho v. Duong

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Receipt of applicant's amendment filed 9/14/2005 is acknowledged. Claims 1-4 and 7-9 are pending.

#### ***Response to Arguments***

Applicant's arguments filed 9/14/2005 have been fully considered but they are not persuasive. Applicant's argument that none of the wick portions of Bhatia includes a plurality of grooves, has been very carefully considered but is not found to be persuasive. Applicant is advised to see column 3, lines 30-35, which Bhatia discloses that the wick structure can comprises grooves, or wire mesh or any other porous material. Furthermore, it has been well known in the heat pipe art, that wick comprises of grooves or wire mesh or porous material. Even applicant discloses on page 10, first paragraph, that the wick may be a groove, a mesh, a plurality porous structure such as sintered metal piece and it does not appear in the disclosure that using one specific type of wick would patentably define over other type of wick since no criticality or unexpected result for using one specific type is disclosed. Therefore, the rejection remains proper.

The 112<sup>th</sup> rejections against claims 2-4 and 7 and the objection to the drawings are withdrawn in view of applicant's amendment.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,7,8 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bhatia et al. (US 5,933,323). Bhatia discloses (figures 2,3) an electronic apparatus comprising an evaporator for evaporating fluid in a liquid phase; a condenser having a plurality of wick wicks (302,303) for generating capillary force for refluxing the fluid; a liquid phase channel (liquid running inside of the wick 303) for circulating fluid in a liquid phase, the liquid phase channel connecting with both the evaporator and the condenser; a vapor phase channel (304) for circulating fluid in a vapor phase; the vapor phase channel connecting with both the evaporator and the condenser; the wicks (302,303) formed on the condenser are arranged symmetrically around the axis orthogonal to the direction of gravity wherein gravity is a downward direction (inside the paper) and the axis orthogonal to the gravity is the axis that divides the heat transport device in half (in the plane of paper of figure 3). Regarding claim 3, Bhatia further discloses (figure 3) that the wick structures (303) arranged in a radial pattern centered at a joint (301) of the liquid phase channel. Bhatia further discloses (column 3, lines 30-32) that the wick structure can be composed of grooves or wire mesh or any other porous material. Furthermore, it has been well known in the heat pipe art, that wick comprises of grooves or wire mesh or porous material. Even applicant discloses on page 10, first paragraph, that the wick may be a groove, a mesh, a plurality porous structure such as sintered metal piece and it does not appear in the disclosure that using one specific type of wick would patentably define over other type of wick since no criticality or unexpected result for using one specific type is disclosed. Regarding claim 8, Bhatia discloses (column 3, lines 22-30) that the upper plate and the lower plate, which form the upper and lower boundary of the liquid and vapor channels, are made of copper or aluminum, which is known in the art to be a flexible

Art Unit: 3753

material (See evidence 4,246,597, column 3, lines 37-39). Regarding claim 7, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitation. *Ex parte Masham*, 2 USPQ2d 1647 (1987). In this instant application, the recitation that the claimed heat transport device is intended to use in an imaging apparatus does not differentiate the claimed heat transport device from the Bhatia's heat transport device satisfying the claimed structural limitations.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3753

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on 571-272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tho v Duong  
Primary Examiner  
Art Unit 3753

TD

TD  
December 2, 2005